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ABSTRACT

The usefulness of vocational interest measures has been questioned by those who have studied the predictive validity of expressed choice. The predictive validities of measured interest for decided and undecided students, expressed choice and measured interest, and expressed choice and measured interest when they are congruent and incongruent were investigated in a follow-up study of 408 university graduates 11 years after they had taken the Strong Vocational Interest Blank (SVIB) and the American College Test. Expressed choice predicted future occupation more accurately than measured interest. The accuracy of both variables was greatest when they were congruent. Expressed choice was found to be a more accurate predictor for women than for men. Predictive accuracy of the single highest SVIB scale was greater than that obtained from a grouping of SVIB scales. The SVIB was equally efficient a predictor for undecided students as it was for decided students. The predictions of future occupational choice from SVIB profiles yielded lower "hit rates" than the retrospective method used in most validity studies. (Author/NRB)

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Validity of Measured Interest for Decided and Undecided Students

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Validity of Measured Interest for Decided and Undecided Students

The purposes of this study were (1) to determine the predictive validity of measured interest for decided and undecided students, (2) to investigate the predictive validities of expressed choice and measured interest, and (3) to determine the predictive validity of these indices when they are congruent and when they are incongruent.

The usefulness of vocational interest measures has been questioned by those who have studied the predictive validity of expressed choice. Dolliver (1969) reviewed studies of the SVIB and expressed interest and concluded that "the predictive validity of expressed interests is at least as great as the predictive validity of the SVIB. In no study where direct comparison was made...was the SVIB as accurate as the expressed interests in predicting occupation engaged in" (pp. 103-104).

Expressed career choice has been shown to have predictive validity equal to that of measured interest, at least in the short-term studies reviewed by these authors. The questions remain: which has the greatest predictive validity over a long time-span, and how do expressed choice and measured interest validities compare when they are congruent and when they are incongruent. A study over a three-year span by Borgen and Seling (1978) showed more accurate prediction when the two indices were congruent.

In all follow-up studies, except Borgen and Seling's, the current occupation of the subjects was determined and the test results, which had been obtained at an earlier time, were examined to determine if they were in any way predictive of current occupation. The retrospective comparison differs from the problem faced by a counselor who must examine current test results and predict to future occupation. Therefore, to more closely approximate the counselor's use of the SVIB, predictive validity in this study was determined by making a prediction of a future occupation from the SVIB results and then examining current occupations to determine the accuracy of such predictions.

Another problem faced by counselors in predicting from expressed career choices is that a number of their clients are unable to narrow their choices. Indeed, it is this inability to express any type of career choice that motivates them to seek the assistance of a counselor. It is therefore important to determine the predictive validity of a vocational interest inventory for these "undecided" clients who do not have an expressed choice.

Method

Subjects

Data were collected on all freshmen who entered South Dakota State University (SDSU) in the fall of 1967. Complete data were available for all but 10 of the 1432 students in the freshman class.

Of the 1422 freshmen, 836 had graduated from the University by 1974 and addresses were available in the alumni files in 1978 for 641 of them. The free use of a nation-wide WATS line was secured from a local industry after two mailings had yielded 292 completed questionnaires. Telephone numbers were obtained for 153 of the 349 non-respondents, and 116 responded to the questionnaire items over the phone. The total number of 408 respondents (239 males, 169 females) represented 64% of the 641 graduates for whom addresses were available.

Instruments

The ACT (American College Testing Program, 1966) which was taken by students at that time, was a two-part instrument consisting of a student profile section and scholastic aptitude tests of English, Mathematics, Social Studies, and Natural Sciences. The Strong Vocational Interest Blanks (SVIB) used were the Men's Booklet (Form T 399) and the Women's Booklet (Form W - Machine Edition).

A brief five-item questionnaire, designed to elicit (1) present occupation, (2) usual occupation, (3) level of occupational satisfaction, and (4) influences (2 items) on entry into present occupation, was mailed to the graduates in the fall of 1978.

Procedure

Holland 3-letter codes were assigned to expressed choices, measured interests, and present occupations, using the Holland Occupational Classification Alphabetical Index (Holland, 1972) and Viernstein's Extension (Holland, 1972).

The SVIB "profiles" were given 3-letter codes in two ways: (1) by using the code of the occupational scale with the highest standard score (SVIB-H) and (2) by using a pattern or group technique (SVIB-G).

Holland 3-letter codes were assigned to the graduates' present occupations using the same procedures that had been used to code expressed choices. "Usual" occupation was used only if it differed from "present" occupation; for example, those currently unemployed, or women who had interrupted another career for homemaking.

Predictive accuracy was categorized as a "Good Hit," "Poor Hit," or "Clean Miss" (Table 1). This method is an adaptation of the agreement index used in studies of the Self-Directed Search (Holland, 1972; Zener & Schnuelle, 1972) to assess the degree of agreement between two sets of 3-letter codes.

Results

Prediction of Future Occupation

The degree of agreement score between each of the five predictors and the criterion (usual occupation) for each individual was defined as a "Good Hit," "Poor Hit," or "Clean Miss," as was shown in Table 1.

Table 1

Score Value and Accuracy of the Degree of Agreement Between Pairs of 3-Letter Holland Codes

Definition	Score Value	Accuracy
Letters and order exactly the same (e.g., RIE, RIE)	6	Good Hit
First and second letter of the first code match first and second letters of the second code (e.g., RIE, RIC)	5	Good Hit
First letter of the first code matches the first letter of the second code and the second and third letters are reversed (e.g., RIE, REI)	5	Good Hit
Letters of the first code match letters of the second code, but not in order (e.g., RIE, EIR)	4	Good Hit
First letter of the first code matches the first letter of the second code (e.g., RIE, RSC)	3	Poor Hit
First and second letters of the first code match any two letters in the second code (e.g., RIE, ISR)	2	Poor Hit
First letter of the first code matches any letter in the second code (e.g., RIE, CRS)	1	Clean Miss
First letter of the first code is not included in the other code (e.g., RIE, CAS)	0	Clean Miss

The hit rates for the three expressed choice predictors and the two measured interest predictors are shown in Table 2. Results of the hit rate analyses clearly support the conclusion that the predictive accuracy of expressed choice is greater than the predictive accuracy of measured interest. The three expressed choices differ little in predictive accuracy. Measured interest (SVIB) is not as accurate as expressed choice whether using the single highest occupational scale or the grouping procedure devised for this study. The results also indicate that this grouping of occupational scales (SVIB-G), does not predict future occupation as accurately as does the single highest occupational scale (SVIB-H).

Table 2

Hit Rates (Expressed as Percentages) of Men's and Women's Expressed Choices and Measured Interests

Predictor	Number		Good Hit		Poor Hit		Clean Miss	
	Men	Women	Men	Women	Men	Women	Men	Women
Expressed Choice								
ACT SPS: Major	173	133	41.7	60.8	26.7	22.3	31.6	16.9
Vocation	173	133	43.9	57.5	25.9	25.9	30.2	16.6
Freshman Major	194	144	50.2	60.9	22.9	23.6	26.9	15.5
Measured Interest								
SVIB-H	234	150	32.5	32.7	27.4	26.0	40.1	41.3
SVIB-G	234	150	31.2	13.3	28.6	26.7	40.2	60.0

Inspection of the hit rates for men and women reveals that expressed choice predictors are more accurate for women than for men. The higher hit rates found for expressed choice predictors among the women may be due to the narrower range of choice available to them. Perhaps these women made a more accurate expressed choice than the men because their career choices were restricted to those regarded as "fitting" by their parents and society.

Congruence of Expressed Choice and Measured Interest

A problem often faced by counselors is the amount of weight to place on expressed choice and interest test results when the two are incongruent. In this portion of the study, congruence between expressed choice and measured interest was defined by degree of agreement scores, of 6, 5, and 4. Incongruence was defined by degree of agreement scores of 1 and 0. The middle values of the agreement scale, 3 and 2 were not included in either definition and students with such scores were eliminated from these analyses.

The hit rates for the congruent and incongruent groups are shown in Table 3. The predictive accuracy of expressed choice (60% Good Hits) and measured interest (56% Good Hits) is greatest when they are congruent. When expressed choice and measured interest are incongruent, the predictive accuracy of both is diminished. In this case, however, expressed choice with 47% Good Hits is a substantially better predictor than measured interest with only 9% Good Hits.

Table 3

Hit Rates (Expressed as Percentages) of Congruent and Incongruent Expressed Choices and Measured Interests

Predictor Relationship	Predictor	Current Study N	Current Study Good Hit	Current Study Poor Hit	Current Study Clean Miss	Borgen[a] N	Borgen[a] Good Hit
All-ignoring Congruence	Expressed[b]	321	49.8	25.9	24.3	609	52.4
	Measured[cd]	384	32.5	26.9	40.6	609	40.2
Congruent	Expressed	96	60.4	19.8	19.8	218	70.0
	Measured	96	56.2	24.0	19.8	218	70.0
Incongruent	Expressed	70	47.2	21.4	31.4	391	41.4
	Measured	70	8.6	14.3	77.1	391	22.5

[a]Borgen and Seling (1978)

[b]ACT SPS Vocation

[c]Current Study: SVIB-H

[d]Borgen: SVIB - 22 occupational scales

This pattern of hit rates suggests tnat when the two predictors are in agreement, a counselor and client should give considerable weight to both predictors. When expressed choice and measured interest do not agree, however, expressed choice should be given the more serious consideration of the two.

Predictive Accuracy for Undecided Clients

Studies of the predictive accuracy of expressed choice do not help a counselor working with a client who has not made a choice and is seeking help in making a decision. To provide such information for counselors, the predictive accuracy of the SVIB for vocationally undecided students was examined. Students who had indicated on the ACT SPS that they were undecided about their future vocation were classified as Undecided. Those who had marked a future vocation were classified as Decided. The hit rates for SVIB-H and SVIB-G for Decided and Undecided students are shown in Table 4.

Table 4

Predictive Accuracy of Measured Interest for Decided and Undecided Students

Predictor	Group	N	% Good Hit	% Poor Hit	% Clean Miss
SVIB-H	Decided[a]	301	32.5	27.5	40.0
	Undecided[b]	66	34.8	19.7	45.5
SVIB-G	Decided	301	22.9	27.6	49.5
	Undecided	66	31.8	24.2	43.9

[a] Selected a future vocation from the ACT SPS list. Twenty were Undecided on the SVIB and omitted.

[b] Selected "Undecided" from the ACT SPS list. Three were Undecided on the SVIB and omitted.

SVIB-H predicted usual occupation as accurately for Undecided students (Good Hits = 35%) as for Decided students (Good Hits = 33%). The results indicate that the SVIB-H can be used with undecided students in exploring vocations with the knowledge that it is as accurate a predictor for them as it is for other students. Although counselors might well hope for better hit rates than were obtained in this study, the 35% Good Hits for Undecided students is still well above a chance probability of less than 10%.

Discussion

The findings again established the superiority of expressed choice over measured interest. Moreover, expressed choice was found to be an even more accurate predictor for women than for men. The results also suggest that in predicting to specific occupations, the single highest occupation on the SVIB profile is the most accurate predictor.

Comparison with Other Studies

A number of predictive studies of the Men's form of the SVIB have been performed using a predictive time span approximating that of this study. A comparison of the predictive validities of the earlier studies and the current study is shown in Table 5. The results of earlier studies are remarkably consistent, probably because the methods employed were very similar. Predicting a future occupation from an SVIB profile is a more difficult task, but is similar to that faced by the counselor. The different type of prediction method used probably accounts for the lower hit rates obtained in the current study.

Table 5

Comparison of Earlier and Current SVIB
Predictive Validity Results

Accuracy	Strong	McArthur	Trimble	Brandt & Hood	Dolliver Irvin & Bigley	Dolliver & Will	Current Study
Good hit	48%	45%	49%	48%	42%	49%	32%
Poor hit	18%	20%	17%	20%	12%	21%	27%
Clean miss	34%	35%	34%	32%	46%	30%	41%
Method[a]	1	2	2	3	2	4	5
N	524	60	120	259	130	47	384
Sex	M	M	M	M	M	M-W[b]	M-W[c]
Year Span	18	14	10	7	12	10	11

[a](1) Strong. Good hit = A's, Poor hit = B+'s, Clean miss = B-C's.
(2) McArthur. Good hit = A's or an occupation which had 1st, 2nd, or 3rd highest ranking; Poor hit = B+'s; Clean miss = Anything below.
(3) Brandt & Hood. Pattern analysis using McArthur's rules.
(4) Dolliver & Will. Good hit = A's & B+'s, Poor hit = B's & B-'s, Clean miss = C's.
(5) Current Study. Agreement of Holland codes. Good hit = 6, 5, 4; Poor hit = 3, 2; Clean miss = 1, 0.

[b]28 men and 19 women, all took the SVIB-M.

[c]234 men - SVIB-M; 150 women - SVIB-W.

Congruent and Incongruent Interests

The results comparing the accuracy of expressed choice and measured interest when they are congruent and when they are incongruent substantiated what has been shown in several other studies. The results of the Borgen and Seling study, which were compared with the results of the current study in Table 3, predicted "career choice" over a three-year time span as opposed to predicting actual occupation engaged in (eleven years later) as was done in this study. This difference in time span,and Borgen and Seling's use of discriminate analysis involving 22 scales of the SVIB, probably account for their somewhat higher hit rates for measured interest.

Undecided Students

The important finding concerning the predictive accuracy of the SVIB for students who are vocationally undecided was that the SVIB had a hit rate of 54.5% for these students. Although not as high as the "Good" and "Poor" hit rate(60.0%) for those students who had made a vocational decision, this result clearly indicates that the SVIB, or some other measure of interest, can provide needed direction for the student who has not made a choice.

Conclusion

This study answers some of the questions which have been raised about the value of vocational interest measures by showing that the SVIB improves on chance, and thus is useful in reinforcing decisions made by students who have chosen an occupation as well as for exploring possible choices for those who have not.

This was the first large-scale follow-up study of women's career choices over a long time-span, but, women's careers were beginning to enter a state of transition at the time this study was begun and this transition continued throughout the 11-year period covered in the study. Therefore, the results may not be applicable to women who are now entering the work world and another study of the predictive validity of these measures for women should be undertaken when this period of transition ends.

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